



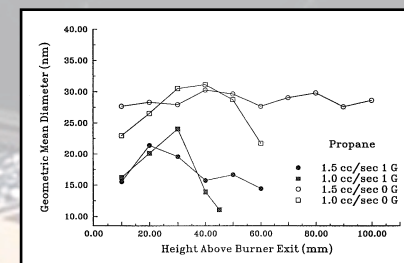
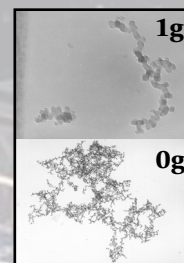
Glenn Research Center



# Soot Diagnostics

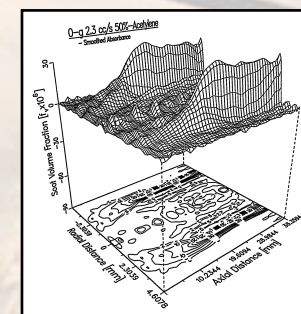
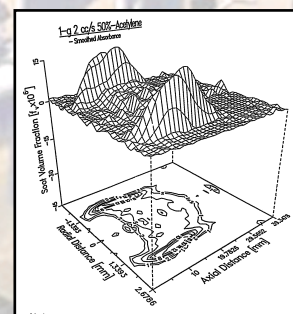
## I. Thermophoretic Sampling Probe

- Rapid insertion of fine wire grids
- A posteriori analysis by transmission electron microscope
- Yields primary particle size distribution and aggregate fractal dimension



## II. Soot Volume Fraction Imaging

- Spatially resolved absorption profiles
- Simple to implement and interpret
- High spatial/temporal yield



## III. Laser-Induced Incandescence

- Soot volume fractions from laser-heated incandescence
- High sensitivity; planar interrogation
- Extremely rapid ( $10^{-8}$  seconds)

